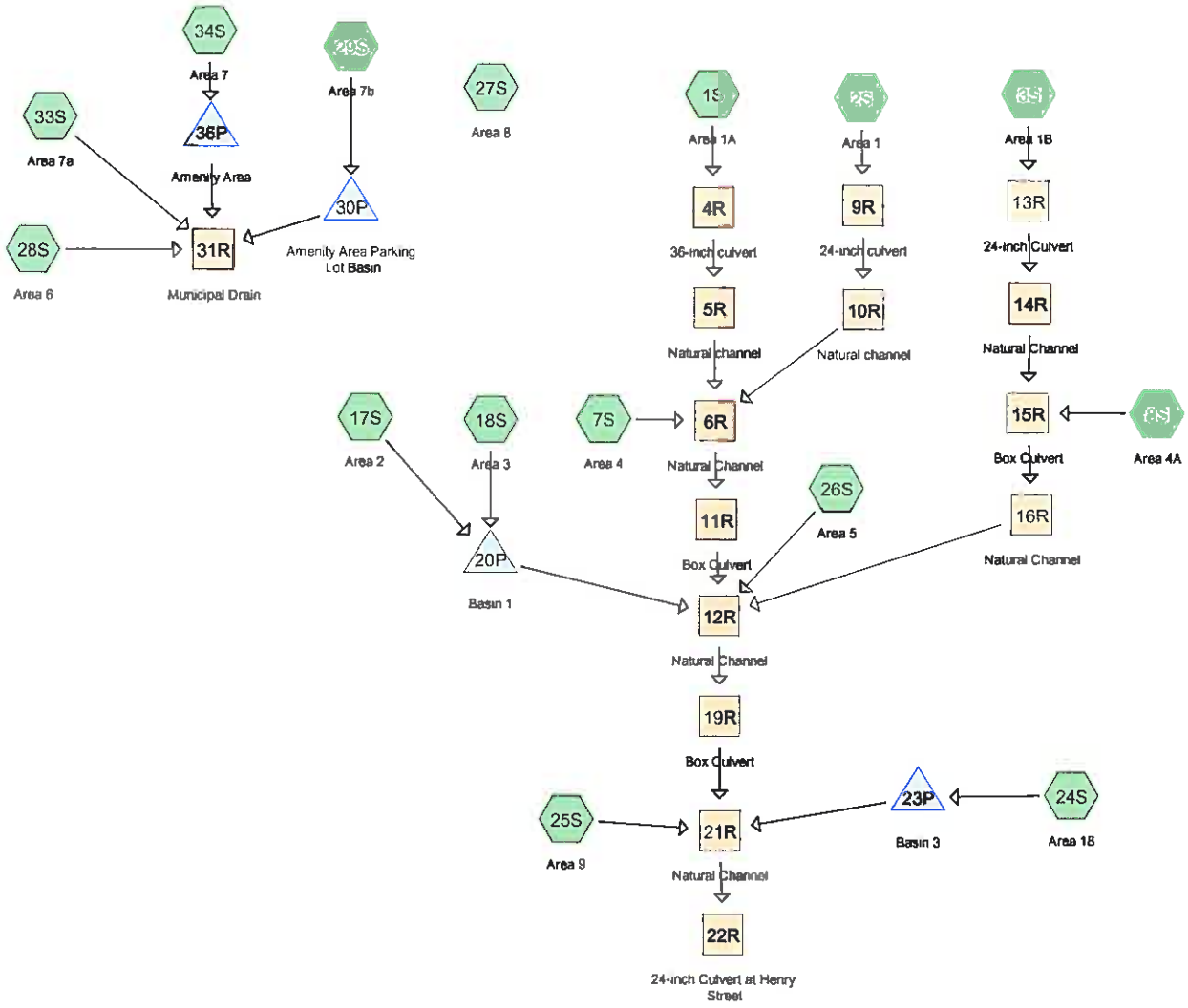
RETREAT AT AMHERST NORTHERLY PORTION OF PROJECT



Subcat Reach Pond Link

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.160	30	Brush, Good, HSG A (1S, 3S, 7S, 8S, 25S, 26S, 28S)
41.120	30	Woods, Good, HSG A (1S, 2S, 3S, 7S, 8S, 24S, 25S, 26S, 27S, 28S)
2.400	35	easement (27S, 28S)
11.690	39	>75% Grass cover, Good, HSG A (17S, 18S, 24S, 33S)
1.250	54	Amenity area (34S)
2.240	98	Paved parking, HSG A (17S, 18S, 24S, 29S)
2.920	98	Paved roads w/curbs & sewers, HSG A (17S, 18S, 24S, 33S)
1.560	98	Roofs, HSG A (17S, 18S, 24S)
0.120	98	walk (33S)
66.460	**39**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
62.690	HSG A	1S, 2S, 3S, 7S, 8S, 17S, 18S, 24S, 25S, 26S, 27S, 28S, 29S, 33S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
3.770	Other	27S, 28S, 33S, 34S
66.460		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
11.690	0.000	0.000	0.000	0.000	11.690	>75% Grass cover, Good	17S, 18S, 24S, 33S
0.000	0.000	0.000	0.000	1.250	1.250	Amenity area	34S
2.240	0.000	0.000	0.000	0.000	2.240	Paved parking	17S, 18S, 24S, 29S
1.560	0.000	0.000	0.000	0.000	1.560	Roofs	17S, 18S, 24S
2.920	0.000	0.000	0.000	0.000	2.920	Paved roads w/curbs & sewers	17S, 18S, 24S, 33S
3.160	0.000	0.000	0.000	0.000	3.160	Brush, Good	1S, 3S, 7S, 8S, 25S, 26S, 28

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
41.120	0.000	0.000	0.000	0.000	41.120	Woods, Good	1S, 2S, 3S, 7S, 8S, 24S, 25S, 26S, 27S, 28S
0.000	0.000	0.000	0.000	2.400	2.400	easement	27S, 28S
0.000	0.000	0.000	0.000	0.120	0.120	walk	33S
62.690	**0.000**	**0.000**	**0.000**	**3.770**	**66.460**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	4R	450.00	449.40	60.0	0.0100	0.013	36.0	0.0	0.0
2	9R	480.00	479.00	60.0	0.0167	0.013	24.0	0.0	0.0
3	11R	430.00	429.00	60.0	0.0167	0.013	144.0	72.0	0.0
4	13R	481.00	480.00	60.0	0.0167	0.013	24.0	0.0	0.0
5	15R	465.00	464.00	60.0	0.0167	0.013	96.0	48.0	0.0
6	19R	370.00	369.00	60.0	0.0167	0.013	168.0	120.0	0.0
7	22R	315.63	313.90	46.0	0.0376	0.013	24.0	0.0	0.0
8	31R	348.00	340.50	200.0	0.0375	0.024	15.0	0.0	0.0
9	20P	440.00	435.00	75.0	0.0667	0.013	12.0	0.0	0.0
10	30P	83.00	68.00	40.0	0.3750	0.013	12.0	0.0	0.0
11	36P	83.00	68.00	120.0	0.1250	0.013	12.0	0.0	0.0

Time span=3.00-60.00 hrs, dt=0.03 hrs, 1901 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area 1A Runoff Area=0.620 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=280' Slope=0.1100 '/' Tc=13.4 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 2S: Area 1 Runoff Area=1.420 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=450' Slope=0.0330 '/' Tc=35.9 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 3S: Area 1B Runoff Area=5.230 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,050' Slope=0.0380 '/' Tc=65.9 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 7S: Area 4 Runoff Area=7.980 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=800' Slope=0.0250 '/' Tc=65.3 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 8S: Area 4A Runoff Area=2.150 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=600' Slope=0.0250 '/' Tc=51.9 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 17S: Area 2 Runoff Area=6.260 ac 33.39% Impervious Runoff Depth=0.30"
Tc=7.0 min CN=59 Runoff=0.92 cfs 0.158 af

Subcatchment 18S: Area 3 Runoff Area=5.270 ac 44.78% Impervious Runoff Depth=0.51"
Tc=8.8 min CN=65 Runoff=2.05 cfs 0.222 af

Subcatchment 24S: Area 18 Runoff Area=6.040 ac 27.15% Impervious Runoff Depth=0.19"
Tc=5.0 min CN=55 Runoff=0.42 cfs 0.098 af

Subcatchment 25S: Area 9 Runoff Area=5.380 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=850' Slope=0.0600 '/' Tc=44.3 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 26S: Area 5 Runoff Area=19.250 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,600' Slope=0.0140 '/' Tc=152.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 27S: Area 8 Runoff Area=2.890 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=550' Slope=0.1750 '/' Tc=16.7 min CN=33 Runoff=0.00 cfs 0.000 af

Subcatchment 28S: Area 6 Runoff Area=1.670 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=350' Slope=0.0800 '/' Tc=17.2 min CN=33 Runoff=0.00 cfs 0.000 af

Subcatchment 29S: Area 7b Runoff Area=0.300 ac 100.00% Impervious Runoff Depth>2.76"
Tc=5.0 min CN=98 Runoff=0.90 cfs 0.069 af

Subcatchment 33S: Area 7a Runoff Area=0.750 ac 60.00% Impervious Runoff Depth=0.91"
Flow Length=650' Slope=0.0700 '/' Tc=10.2 min CN=74 Runoff=0.64 cfs 0.057 af

Subcatchment 34S: Area 7 Runoff Area=1.250 ac 0.00% Impervious Runoff Depth=0.17"
Tc=5.0 min CN=54 Runoff=0.07 cfs 0.018 af

Reach 4R: 36-inch culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
36.0" Round Pipe n=0.013 L=60.0' S=0.0100 '/' Capacity=66.70 cfs Outflow=0.00 cfs 0.000 af

Reach 5R: Natural channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=350.0' S=0.0269 '/' Capacity=34.73 cfs Outflow=0.00 cfs 0.000 af

Reach 6R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=450.0' S=0.0222 '/' Capacity=94.09 cfs Outflow=0.00 cfs 0.000 af

Reach 9R: 24-inch culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
24.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.00 cfs 0.000 af

Reach 10R: Natural channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=400.0' S=0.0975 '/' Capacity=30.73 cfs Outflow=0.00 cfs 0.000 af

Reach 11R: Box Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
144.0" x 72.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=1,686.63 cfs Outflow=0.00 cfs 0.000 af

Reach 12R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=1,100.0' S=0.0536 '/' Capacity=197.78 cfs Outflow=0.00 cfs 0.000 af

Reach 13R: 24-inch Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
24.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.00 cfs 0.000 af

Reach 14R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=600.0' S=0.0233 '/' Capacity=63.38 cfs Outflow=0.00 cfs 0.000 af

Reach 15R: Box Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
96.0" x 48.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=572.06 cfs Outflow=0.00 cfs 0.000 af

Reach 16R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=750.0' S=0.1187 '/' Capacity=217.43 cfs Outflow=0.00 cfs 0.000 af

Reach 19R: Box Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
168.0" x 120.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=4,217.47 cfs Outflow=0.00 cfs 0.000 af

Reach 21R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=850.0' S=0.0600 '/' Capacity=264.68 cfs Outflow=0.00 cfs 0.000 af

Reach 22R: 24-inch Culvert at Henry Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
24.0" Round Pipe n=0.013 L=46.0' S=0.0376 '/' Capacity=43.87 cfs Outflow=0.00 cfs 0.000 af

Reach 31R: Municipal Drain Avg. Flow Depth=0.26' Max Vel=3.46 fps Inflow=0.64 cfs 0.057 af
15.0" Round Pipe n=0.024 L=200.0' S=0.0375 '/' Capacity=6.78 cfs Outflow=0.63 cfs 0.057 af

Pond 20P: Basin 1 Peak Elev=442.23' Storage=16,564 cf Inflow=2.95 cfs 0.380 af
Outflow=0.00 cfs 0.000 af

Pond 23P: Basin 3 Peak Elev=380.38' Storage=4,271 cf Inflow=0.42 cfs 0.098 af
Outflow=0.00 cfs 0.000 af

Pond 30P: Amenity Area Parking Lot Basin Peak Elev=81.10' Storage=0.069 af Inflow=0.90 cfs 0.069 af
Outflow=0.00 cfs 0.000 af

Pond 36P: Amenity Area Peak Elev=79.68' Storage=0.018 af Inflow=0.07 cfs 0.018 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 66.460 ac Runoff Volume = 0.622 af Average Runoff Depth = 0.11"
89.71% Pervious = 59.620 ac 10.29% Impervious = 6.840 ac

Summary for Subcatchment 1S: Area 1A

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
0.050	30	Brush, Good, HSG A
0.570	30	Woods, Good, HSG A
0.620	30	Weighted Average
0.620		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	280	0.1100	0.35		**Lag/CN Method,**

Summary for Subcatchment 2S: Area 1

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
1.420	30	Woods, Good, HSG A
1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.9	450	0.0330	0.21		**Lag/CN Method,**

Summary for Subcatchment 3S: Area 1B

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
0.220	30	Brush, Good, HSG A
5.010	30	Woods, Good, HSG A
5.230	30	Weighted Average
5.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.9	1,050	0.0380	0.27		**Lag/CN Method,**

Summary for Subcatchment 7S: Area 4

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
0.420	30	Brush, Good, HSG A
7.560	30	Woods, Good, HSG A
7.980	30	Weighted Average
7.980		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.3	800	0.0250	0.20		**Lag/CN Method,**

Summary for Subcatchment 8S: Area 4A

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
0.060	30	Brush, Good, HSG A
2.090	30	Woods, Good, HSG A
2.150	30	Weighted Average
2.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
51.9	600	0.0250	0.19		**Lag/CN Method,**

Summary for Subcatchment 17S: Area 2

Runoff = 0.92 cfs @ 12.27 hrs, Volume= 0.158 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
4.170	39	>75% Grass cover, Good, HSG A
0.810	98	Paved roads w/curbs & sewers, HSG A
0.660	98	Paved parking, HSG A
0.620	98	Roofs, HSG A
6.260	59	Weighted Average
4.170		66.61% Pervious Area
2.090		33.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Summary for Subcatchment 18S: Area 3

Runoff = 2.05 cfs @ 12.16 hrs, Volume= 0.222 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
2.910	39	>75% Grass cover, Good, HSG A
1.020	98	Paved roads w/curbs & sewers, HSG A
0.790	98	Paved parking, HSG A
0.550	98	Roofs, HSG A
5.270	65	Weighted Average
2.910		55.22% Pervious Area
2.360		44.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8					**Direct Entry,**

Summary for Subcatchment 24S: Area 18

Runoff = 0.42 cfs @ 12.36 hrs, Volume= 0.098 af, Depth= 0.19"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
4.310	39	>75% Grass cover, Good, HSG A
0.760	98	Paved roads w/curbs & sewers, HSG A
0.490	98	Paved parking, HSG A
0.390	98	Roofs, HSG A
0.090	30	Woods, Good, HSG A
6.040	55	Weighted Average
4.400		72.85% Pervious Area
1.640		27.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 25S: Area 9

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
0.030	30	Brush, Good, HSG A
5.350	30	Woods, Good, HSG A
5.380	30	Weighted Average
5.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.3	850	0.0600	0.32		**Lag/CN Method,**

Summary for Subcatchment 26S: Area 5

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
1.890	30	Brush, Good, HSG A
17.360	30	Woods, Good, HSG A
19.250	30	Weighted Average
19.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
152.0	1,600	0.0140	0.18		**Lag/CN Method,**

Summary for Subcatchment 27S: Area 8

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

	Area (ac)	CN	Description
	1.350	30	Woods, Good, HSG A
*	1.540	35	easement
	2.890	33	Weighted Average
	2.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	550	0.1750	0.55		**Lag/CN Method,**

Summary for Subcatchment 28S: Area 6

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

	Area (ac)	CN	Description
	0.490	30	Brush, Good, HSG A
	0.320	30	Woods, Good, HSG A
*	0.860	35	easement
	1.670	33	Weighted Average
	1.670		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	350	0.0800	0.34		**Lag/CN Method,**

Summary for Subcatchment 29S: Area 7b

Runoff = 0.90 cfs @ 12.07 hrs, Volume= 0.069 af, Depth> 2.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG A
0.300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 33S: Area 7a

Runoff = 0.64 cfs @ 12.16 hrs, Volume= 0.057 af, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

	Area (ac)	CN	Description
	0.330	98	Paved roads w/curbs & sewers, HSG A
*	0.120	98	walk
	0.300	39	>75% Grass cover, Good, HSG A
	0.750	74	Weighted Average
	0.300		40.00% Pervious Area
	0.450		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	650	0.0700	1.07		**Lag/CN Method,**

Summary for Subcatchment 34S: Area 7

Runoff = 0.07 cfs @ 12.38 hrs, Volume= 0.018 af, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.00"

	Area (ac)	CN	Description
*	1.250	54	Amenity area
	1.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 4R: 36-inch culvert

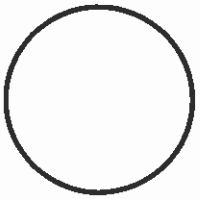
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.620 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 66.70 cfs

36.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0100 '/'
Inlet Invert= 450.00', Outlet Invert= 449.40'



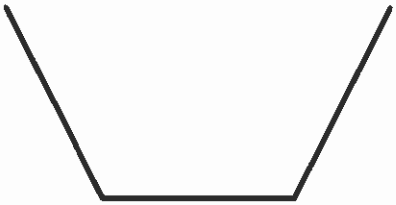
Summary for Reach 5R: Natural channel

Inflow Area = 0.620 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 6.0 sf, Capacity= 34.73 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 0.5 '/' Top Width= 4.00'
Length= 350.0' Slope= 0.0269 '/'
Inlet Invert= 449.40', Outlet Invert= 440.00'



Summary for Reach 6R: Natural Channel

Inflow Area = 10.020 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 94.09 cfs

6.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 8.00'
Length= 450.0' Slope= 0.0222 '/'
Inlet Invert= 440.00', Outlet Invert= 430.00'

Summary for Reach 9R: 24-inch culvert

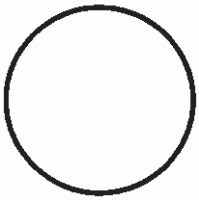
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 1.420 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 480.00', Outlet Invert= 479.00'



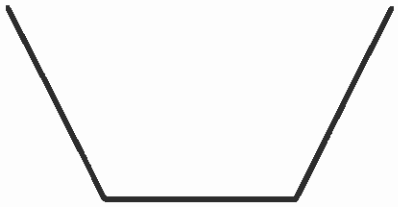
Summary for Reach 10R: Natural channel

Inflow Area = 1.420 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50' Flow Area= 3.4 sf, Capacity= 30.73 cfs

1.50' x 1.50' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 3.00'
Length= 400.0' Slope= 0.0975 '/'
Inlet Invert= 479.00', Outlet Invert= 440.00'



Summary for Reach 11R: Box Culvert

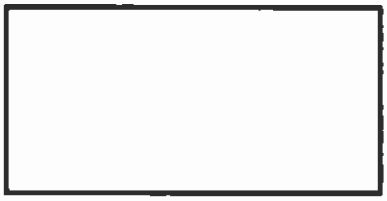
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 10.020 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 6.00' Flow Area= 72.0 sf, Capacity= 1,686.63 cfs

144.0" W x 72.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 430.00', Outlet Invert= 429.00'



Summary for Reach 12R: Natural Channel

[62] Hint: Exceeded Reach 16R OUTLET depth by 54.00' @ 3.00 hrs

Inflow Area = 48.180 ac, 9.24% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 18.0 sf, Capacity= 197.78 cfs

8.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 10.00'
Length= 1,100.0' Slope= 0.0536 '/'
Inlet Invert= 429.00', Outlet Invert= 370.00'

Summary for Reach 13R: 24-inch Culvert

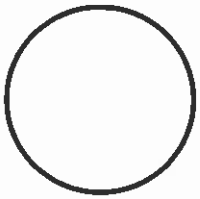
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 5.230 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 481.00', Outlet Invert= 480.00'



Summary for Reach 14R: Natural Channel

Inflow Area = 5.230 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 63.38 cfs

4.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 6.00'
Length= 600.0' Slope= 0.0233 '/'
Inlet Invert= 479.00', Outlet Invert= 465.00'

Summary for Reach 15R: Box Culvert

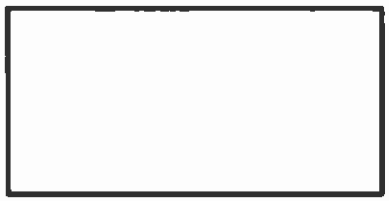
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 7.380 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 572.06 cfs

96.0" W x 48.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 465.00', Outlet Invert= 464.00'



Summary for Reach 16R: Natural Channel

Inflow Area = 7.380 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 217.43 cfs

6.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 8.00'
Length= 750.0' Slope= 0.1187 '/'
Inlet Invert= 464.00', Outlet Invert= 375.00'

Summary for Reach 19R: Box Culvert

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 48.180 ac, 9.24% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 10.00' Flow Area= 140.0 sf, Capacity= 4,217.47 cfs

168.0" W x 120.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 370.00', Outlet Invert= 369.00'

Summary for Reach 21R: Natural Channel

Inflow Area = 59.600 ac, 10.22% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 22.0 sf, Capacity= 264.68 cfs

10.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 12.00'
Length= 850.0' Slope= 0.0600 '/'
Inlet Invert= 369.00', Outlet Invert= 318.00'

Summary for Reach 22R: 24-inch Culvert at Henry Street

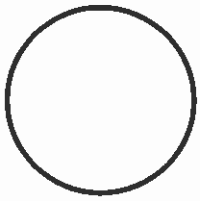
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 59.600 ac, 10.22% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 43.87 cfs

24.0" Round Pipe
n= 0.013
Length= 46.0' Slope= 0.0376 '/'
Inlet Invert= 315.63', Outlet Invert= 313.90'



Summary for Reach 31R: Municipal Drain

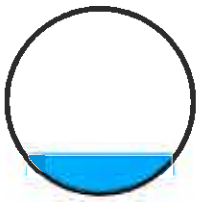
[52] Hint: Inlet/Outlet conditions not evaluated
[81] Warning: Exceeded Pond 30P by 269.00' @ 3.00 hrs
[81] Warning: Exceeded Pond 36P by 269.26' @ 12.15 hrs

Inflow Area = 3.970 ac, 18.89% Impervious, Inflow Depth = 0.17" for 2-Year event
Inflow = 0.64 cfs @ 12.16 hrs, Volume= 0.057 af
Outflow = 0.63 cfs @ 12.19 hrs, Volume= 0.057 af, Atten= 1%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 3.46 fps, Min. Travel Time= 1.0 min
Avg. Velocity = 1.40 fps, Avg. Travel Time= 2.4 min

Peak Storage= 37 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.26'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.78 cfs

15.0" Round Pipe
n= 0.024
Length= 200.0' Slope= 0.0375 '/'
Inlet Invert= 348.00', Outlet Invert= 340.50'



Summary for Pond 20P: Basin 1

Inflow Area = 11.530 ac, 38.59% Impervious, Inflow Depth = 0.40" for 2-Year event
Inflow = 2.95 cfs @ 12.16 hrs, Volume= 0.380 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 442.23' @ 24.54 hrs Surf.Area= 9,518 sf Storage= 16,564 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	440.00'	102,700 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
440.00	5,335	0	0
448.00	20,340	102,700	102,700

Device	Routing	Invert	Outlet Devices
#1	Primary	447.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Primary	440.00'	**12.0" Round Culvert** L= 75.0' Ke= 0.500 Inlet / Outlet Invert= 440.00' / 435.00' S= 0.0667 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Device 2	446.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 2	447.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=440.00' (Free Discharge)
- **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- 2=Culvert (Controls 0.00 cfs)
  - 3=Orifice/Grate (Controls 0.00 cfs)
  - 4=Orifice/Grate (Controls 0.00 cfs)

Summary for Pond 23P: Basin 3

Inflow Area = 6.040 ac, 27.15% Impervious, Inflow Depth = 0.19" for 2-Year event
Inflow = 0.42 cfs @ 12.36 hrs, Volume= 0.098 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 380.38' @ 24.30 hrs Surf.Area= 11,517 sf Storage= 4,271 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	380.00'	51,550 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	11,200	0	0
384.00	14,575	51,550	51,550

Device	Routing	Invert	Outlet Devices
#1	Primary	383.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=380.00' (Free Discharge)
↑—1=**Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 30P: Amenity Area Parking Lot Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.300 ac,100.00% Impervious, Inflow Depth > 2.76" for 2-Year event
Inflow = 0.90 cfs @ 12.07 hrs, Volume= 0.069 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 81.10' @ 24.30 hrs Surf.Area= 0.056 ac Storage= 0.069 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	6.777 af	**38.00'W x 54.00'L x 60.00'H Prismatoid Z=1.0** 17.041 af Overall - 0.100 af Embedded = 16.942 af x 40.0% Voids
#2	79.00'	0.100 af	**57.0" D x 245.0'L Pipe Storage** Inside #1
		6.876 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	83.00'	**12.0" Round Culvert** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 83.00' / 68.00' S= 0.3750 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	85.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=79.00' (Free Discharge)
└─**1=Culvert** (Controls 0.00 cfs)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 36P: Amenity Area

Inflow Area = 1.250 ac, 0.00% Impervious, Inflow Depth = 0.17" for 2-Year event
Inflow = 0.07 cfs @ 12.38 hrs, Volume= 0.018 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 79.68' @ 24.30 hrs Surf.Area= 0.057 ac Storage= 0.018 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	0.118 af	**15.00'W x 150.00'L x 5.00'H Prismatoid Z=1.0** 0.357 af Overall - 0.061 af Embedded = 0.296 af x 40.0% Voids
#2	79.00'	0.061 af	**57.0" D x 150.0'L Pipe Storage** Inside #1
		0.179 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	83.00'	**12.0" Round Culvert** L= 120.0' Ke= 0.500 Inlet / Outlet Invert= 83.00' / 68.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	85.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=79.00' (Free Discharge)
└─**1=Culvert** (Controls 0.00 cfs)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

Time span=3.00-60.00 hrs, dt=0.03 hrs, 1901 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area 1A Runoff Area=0.620 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=280' Slope=0.1100 '/' Tc=13.4 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 2S: Area 1 Runoff Area=1.420 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=450' Slope=0.0330 '/' Tc=35.9 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 3S: Area 1B Runoff Area=5.230 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,050' Slope=0.0380 '/' Tc=65.9 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 7S: Area 4 Runoff Area=7.980 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=800' Slope=0.0250 '/' Tc=65.3 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 8S: Area 4A Runoff Area=2.150 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=600' Slope=0.0250 '/' Tc=51.9 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 17S: Area 2 Runoff Area=6.260 ac 33.39% Impervious Runoff Depth=0.96"
Tc=7.0 min CN=59 Runoff=5.64 cfs 0.502 af

Subcatchment 18S: Area 3 Runoff Area=5.270 ac 44.78% Impervious Runoff Depth=1.33"
Tc=8.8 min CN=65 Runoff=6.86 cfs 0.584 af

Subcatchment 24S: Area 18 Runoff Area=6.040 ac 27.15% Impervious Runoff Depth=0.74"
Tc=5.0 min CN=55 Runoff=3.93 cfs 0.374 af

Subcatchment 25S: Area 9 Runoff Area=5.380 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=850' Slope=0.0600 '/' Tc=44.3 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 26S: Area 5 Runoff Area=19.250 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,600' Slope=0.0140 '/' Tc=152.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 27S: Area 8 Runoff Area=2.890 ac 0.00% Impervious Runoff Depth=0.01"
Flow Length=550' Slope=0.1750 '/' Tc=16.7 min CN=33 Runoff=0.00 cfs 0.002 af

Subcatchment 28S: Area 6 Runoff Area=1.670 ac 0.00% Impervious Runoff Depth=0.01"
Flow Length=350' Slope=0.0800 '/' Tc=17.2 min CN=33 Runoff=0.00 cfs 0.001 af

Subcatchment 29S: Area 7b Runoff Area=0.300 ac 100.00% Impervious Runoff Depth>4.24"
Tc=5.0 min CN=98 Runoff=1.36 cfs 0.106 af

Subcatchment 33S: Area 7a Runoff Area=0.750 ac 60.00% Impervious Runoff Depth=1.97"
Flow Length=650' Slope=0.0700 '/' Tc=10.2 min CN=74 Runoff=1.48 cfs 0.123 af

Subcatchment 34S: Area 7 Runoff Area=1.250 ac 0.00% Impervious Runoff Depth=0.69"
Tc=5.0 min CN=54 Runoff=0.72 cfs 0.072 af

Reach 4R: 36-inch culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
36.0" Round Pipe n=0.013 L=60.0' S=0.0100 '/' Capacity=66.70 cfs Outflow=0.00 cfs 0.000 af

Reach 5R: Natural channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=350.0' S=0.0269 '/' Capacity=34.73 cfs Outflow=0.00 cfs 0.000 af

Reach 6R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=450.0' S=0.0222 '/' Capacity=94.09 cfs Outflow=0.00 cfs 0.000 af

Reach 9R: 24-inch culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
24.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.00 cfs 0.000 af

Reach 10R: Natural channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=400.0' S=0.0975 '/' Capacity=30.73 cfs Outflow=0.00 cfs 0.000 af

Reach 11R: Box Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
144.0" x 72.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=1,686.63 cfs Outflow=0.00 cfs 0.000 af

Reach 12R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=1,100.0' S=0.0536 '/' Capacity=197.78 cfs Outflow=0.00 cfs 0.000 af

Reach 13R: 24-inch Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
24.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.00 cfs 0.000 af

Reach 14R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=600.0' S=0.0233 '/' Capacity=63.38 cfs Outflow=0.00 cfs 0.000 af

Reach 15R: Box Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
96.0" x 48.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=572.06 cfs Outflow=0.00 cfs 0.000 af

Reach 16R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=750.0' S=0.1187 '/' Capacity=217.43 cfs Outflow=0.00 cfs 0.000 af

Reach 19R: Box Culvert Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
168.0" x 120.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=4,217.47 cfs Outflow=0.00 cfs 0.000 af

Reach 21R: Natural Channel Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.040 L=850.0' S=0.0600 '/' Capacity=264.68 cfs Outflow=0.00 cfs 0.000 af

Reach 22R: 24-inch Culvert at Henry Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
24.0" Round Pipe n=0.013 L=46.0' S=0.0376 '/' Capacity=43.87 cfs Outflow=0.00 cfs 0.000 af

Reach 31R: Municipal Drain Avg. Flow Depth=0.40' Max Vel=4.41 fps Inflow=1.48 cfs 0.125 af
15.0" Round Pipe n=0.024 L=200.0' S=0.0375 '/' Capacity=6.78 cfs Outflow=1.46 cfs 0.125 af

Pond 20P: Basin 1 Peak Elev=444.81' Storage=47,301 cf Inflow=12.47 cfs 1.086 af
Outflow=0.00 cfs 0.000 af

Pond 23P: Basin 3 Peak Elev=381.38' Storage=16,278 cf Inflow=3.93 cfs 0.374 af
Outflow=0.00 cfs 0.000 af

Pond 30P: Amenity Area Parking Lot Basin Peak Elev=82.04' Storage=0.106 af Inflow=1.36 cfs 0.106 af
Outflow=0.00 cfs 0.000 af

Pond 36P: Amenity Area Peak Elev=81.27' Storage=0.072 af Inflow=0.72 cfs 0.072 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 66.460 ac Runoff Volume = 1.764 af Average Runoff Depth = 0.32"
89.71% Pervious = 59.620 ac 10.29% Impervious = 6.840 ac

Summary for Subcatchment 1S: Area 1A

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
0.050	30	Brush, Good, HSG A
0.570	30	Woods, Good, HSG A
0.620	30	Weighted Average
0.620		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	280	0.1100	0.35		**Lag/CN Method,**

Summary for Subcatchment 2S: Area 1

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
1.420	30	Woods, Good, HSG A
1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.9	450	0.0330	0.21		**Lag/CN Method,**

Summary for Subcatchment 3S: Area 1B

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
0.220	30	Brush, Good, HSG A
5.010	30	Woods, Good, HSG A
5.230	30	Weighted Average
5.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.9	1,050	0.0380	0.27		**Lag/CN Method,**

Summary for Subcatchment 7S: Area 4

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
0.420	30	Brush, Good, HSG A
7.560	30	Woods, Good, HSG A
7.980	30	Weighted Average
7.980		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.3	800	0.0250	0.20		**Lag/CN Method,**

Summary for Subcatchment 8S: Area 4A

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
0.060	30	Brush, Good, HSG A
2.090	30	Woods, Good, HSG A
2.150	30	Weighted Average
2.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
51.9	600	0.0250	0.19		**Lag/CN Method,**

Summary for Subcatchment 17S: Area 2

Runoff = 5.64 cfs @ 12.12 hrs, Volume= 0.502 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
4.170	39	>75% Grass cover, Good, HSG A
0.810	98	Paved roads w/curbs & sewers, HSG A
0.660	98	Paved parking, HSG A
0.620	98	Roofs, HSG A
6.260	59	Weighted Average
4.170		66.61% Pervious Area
2.090		33.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Summary for Subcatchment 18S: Area 3

Runoff = 6.86 cfs @ 12.14 hrs, Volume= 0.584 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
2.910	39	>75% Grass cover, Good, HSG A
1.020	98	Paved roads w/curbs & sewers, HSG A
0.790	98	Paved parking, HSG A
0.550	98	Roofs, HSG A
5.270	65	Weighted Average
2.910		55.22% Pervious Area
2.360		44.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8					**Direct Entry,**

Summary for Subcatchment 24S: Area 18

Runoff = 3.93 cfs @ 12.10 hrs, Volume= 0.374 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
4.310	39	>75% Grass cover, Good, HSG A
0.760	98	Paved roads w/curbs & sewers, HSG A
0.490	98	Paved parking, HSG A
0.390	98	Roofs, HSG A
0.090	30	Woods, Good, HSG A
6.040	55	Weighted Average
4.400		72.85% Pervious Area
1.640		27.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 25S: Area 9

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
0.030	30	Brush, Good, HSG A
5.350	30	Woods, Good, HSG A
5.380	30	Weighted Average
5.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.3	850	0.0600	0.32		**Lag/CN Method,**

Summary for Subcatchment 26S: Area 5

[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
1.890	30	Brush, Good, HSG A
17.360	30	Woods, Good, HSG A
19.250	30	Weighted Average
19.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
152.0	1,600	0.0140	0.18		**Lag/CN Method,**

Summary for Subcatchment 27S: Area 8

Runoff = 0.00 cfs @ 22.94 hrs, Volume= 0.002 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

	Area (ac)	CN	Description
	1.350	30	Woods, Good, HSG A
*	1.540	35	easement
	2.890	33	Weighted Average
	2.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	550	0.1750	0.55		**Lag/CN Method,**

Summary for Subcatchment 28S: Area 6

Runoff = 0.00 cfs @ 22.95 hrs, Volume= 0.001 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

	Area (ac)	CN	Description
	0.490	30	Brush, Good, HSG A
	0.320	30	Woods, Good, HSG A
*	0.860	35	easement
	1.670	33	Weighted Average
	1.670		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	350	0.0800	0.34		**Lag/CN Method,**

Summary for Subcatchment 29S: Area 7b

Runoff = 1.36 cfs @ 12.07 hrs, Volume= 0.106 af, Depth> 4.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG A
0.300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 33S: Area 7a

Runoff = 1.48 cfs @ 12.15 hrs, Volume= 0.123 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

	Area (ac)	CN	Description
	0.330	98	Paved roads w/curbs & sewers, HSG A
*	0.120	98	walk
	0.300	39	>75% Grass cover, Good, HSG A
	0.750	74	Weighted Average
	0.300		40.00% Pervious Area
	0.450		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	650	0.0700	1.07		**Lag/CN Method,**

Summary for Subcatchment 34S: Area 7

Runoff = 0.72 cfs @ 12.10 hrs, Volume= 0.072 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=4.50"

	Area (ac)	CN	Description
*	1.250	54	Amenity area
	1.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 4R: 36-inch culvert

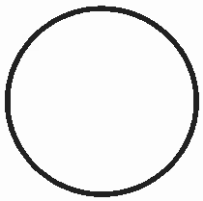
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.620 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 66.70 cfs

36.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0100 '/'
Inlet Invert= 450.00', Outlet Invert= 449.40'



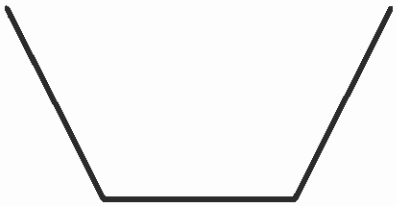
Summary for Reach 5R: Natural channel

Inflow Area = 0.620 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 6.0 sf, Capacity= 34.73 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 0.5 '/' Top Width= 4.00'
Length= 350.0' Slope= 0.0269 '/'
Inlet Invert= 449.40', Outlet Invert= 440.00'



Summary for Reach 6R: Natural Channel

Inflow Area = 10.020 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 94.09 cfs

6.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 8.00'
Length= 450.0' Slope= 0.0222 '/'
Inlet Invert= 440.00', Outlet Invert= 430.00'

Summary for Reach 9R: 24-inch culvert

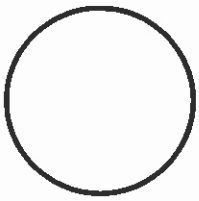
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 1.420 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 480.00', Outlet Invert= 479.00'



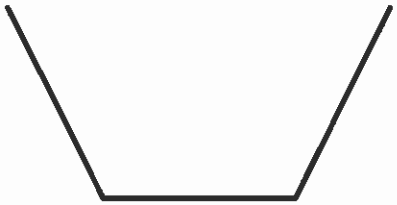
Summary for Reach 10R: Natural channel

Inflow Area = 1.420 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50' Flow Area= 3.4 sf, Capacity= 30.73 cfs

1.50' x 1.50' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 3.00'
Length= 400.0' Slope= 0.0975 '/'
Inlet Invert= 479.00', Outlet Invert= 440.00'



Summary for Reach 11R: Box Culvert

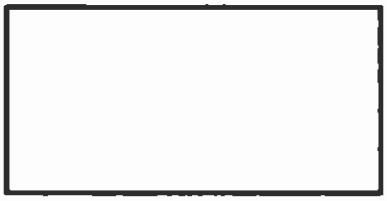
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 10.020 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 6.00' Flow Area= 72.0 sf, Capacity= 1,686.63 cfs

144.0" W x 72.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 430.00', Outlet Invert= 429.00'



Summary for Reach 12R: Natural Channel

[62] Hint: Exceeded Reach 16R OUTLET depth by 54.00' @ 3.00 hrs

Inflow Area = 48.180 ac, 9.24% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 18.0 sf, Capacity= 197.78 cfs

8.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 10.00'
Length= 1,100.0' Slope= 0.0536 '/'
Inlet Invert= 429.00', Outlet Invert= 370.00'

Summary for Reach 13R: 24-inch Culvert

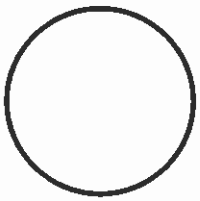
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 5.230 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 481.00', Outlet Invert= 480.00'



Summary for Reach 14R: Natural Channel

Inflow Area = 5.230 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 63.38 cfs

4.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 6.00'
Length= 600.0' Slope= 0.0233 '/'
Inlet Invert= 479.00', Outlet Invert= 465.00'

Summary for Reach 15R: Box Culvert

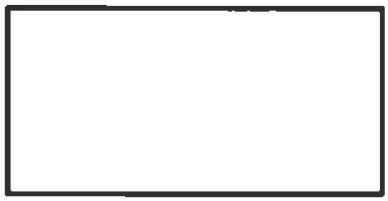
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 7.380 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 572.06 cfs

96.0" W x 48.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 465.00', Outlet Invert= 464.00'



Summary for Reach 16R: Natural Channel

Inflow Area = 7.380 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 217.43 cfs

6.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 8.00'
Length= 750.0' Slope= 0.1187 '/'
Inlet Invert= 464.00', Outlet Invert= 375.00'

Summary for Reach 19R: Box Culvert

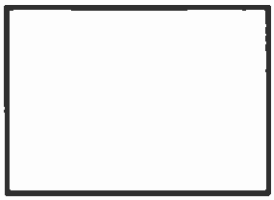
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 48.180 ac, 9.24% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 10.00' Flow Area= 140.0 sf, Capacity= 4,217.47 cfs

168.0" W x 120.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 370.00', Outlet Invert= 369.00'



Summary for Reach 21R: Natural Channel

Inflow Area = 59.600 ac, 10.22% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 22.0 sf, Capacity= 264.68 cfs

10.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 12.00'
Length= 850.0' Slope= 0.0600 '/'
Inlet Invert= 369.00', Outlet Invert= 318.00'

Summary for Reach 22R: 24-inch Culvert at Henry Street

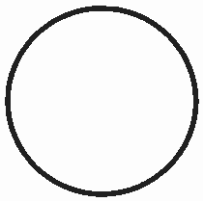
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 59.600 ac, 10.22% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 3.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 43.87 cfs

24.0" Round Pipe
n= 0.013
Length= 46.0' Slope= 0.0376 '/'
Inlet Invert= 315.63', Outlet Invert= 313.90'



Summary for Reach 31R: Municipal Drain

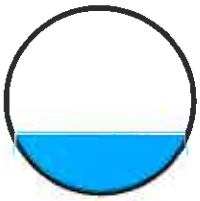
[52] Hint: Inlet/Outlet conditions not evaluated
[81] Warning: Exceeded Pond 30P by 269.00' @ 3.00 hrs
[81] Warning: Exceeded Pond 36P by 269.22' @ 11.97 hrs

Inflow Area = 3.970 ac, 18.89% Impervious, Inflow Depth = 0.38" for 10-Year event
Inflow = 1.48 cfs @ 12.15 hrs, Volume= 0.125 af
Outflow = 1.46 cfs @ 12.17 hrs, Volume= 0.125 af, Atten= 1%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 4.41 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.68 fps, Avg. Travel Time= 2.0 min

Peak Storage= 67 cf @ 12.16 hrs
Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.78 cfs

15.0" Round Pipe
n= 0.024
Length= 200.0' Slope= 0.0375 '/'
Inlet Invert= 348.00', Outlet Invert= 340.50'



Summary for Pond 20P: Basin 1

Inflow Area = 11.530 ac, 38.59% Impervious, Inflow Depth = 1.13" for 10-Year event
Inflow = 12.47 cfs @ 12.13 hrs, Volume= 1.086 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 444.81' @ 24.54 hrs Surf.Area= 14,349 sf Storage= 47,301 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	440.00'	102,700 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
440.00	5,335	0	0
448.00	20,340	102,700	102,700

Device	Routing	Invert	Outlet Devices
#1	Primary	447.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Primary	440.00'	**12.0" Round Culvert** L= 75.0' Ke= 0.500 Inlet / Outlet Invert= 440.00' / 435.00' S= 0.0667 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Device 2	446.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 2	447.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary **OutFlow** Max=0.00 cfs @ 3.00 hrs HW=440.00' (Free Discharge)
- **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **2=Culvert** (Controls 0.00 cfs)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
  - **4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 23P: Basin 3

Inflow Area = 6.040 ac, 27.15% Impervious, Inflow Depth = 0.74" for 10-Year event
Inflow = 3.93 cfs @ 12.10 hrs, Volume= 0.374 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 381.38' @ 24.30 hrs Surf.Area= 12,366 sf Storage= 16,278 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	380.00'	51,550 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	11,200	0	0
384.00	14,575	51,550	51,550

Device	Routing	Invert	Outlet Devices
#1	Primary	383.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=380.00' (Free Discharge)
↑—1=**Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 30P: Amenity Area Parking Lot Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area =	0.300 ac,100.00% Impervious,	Inflow Depth >	4.24"	for 10-Year event	
Inflow =	1.36 cfs @	12.07 hrs, Volume=	0.106 af		
Outflow =	0.00 cfs @	3.00 hrs, Volume=	0.000 af,	Atten= 100%,	Lag= 0.0 min
Primary =	0.00 cfs @	3.00 hrs, Volume=	0.000 af		

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 82.04' @ 24.30 hrs Surf.Area= 0.061 ac Storage= 0.106 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	6.777 af	**38.00'W x 54.00'L x 60.00'H Prismatoid Z=1.0** 17.041 af Overall - 0.100 af Embedded = 16.942 af x 40.0% Voids
#2	79.00'	0.100 af	**57.0" D x 245.0'L Pipe Storage** Inside #1
		6.876 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	83.00'	**12.0" Round Culvert** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 83.00' / 68.00' S= 0.3750 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	85.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=79.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 36P: Amenity Area

Inflow Area = 1.250 ac, 0.00% Impervious, Inflow Depth = 0.69" for 10-Year event
Inflow = 0.72 cfs @ 12.10 hrs, Volume= 0.072 af
Outflow = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 3.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 81.27' @ 24.30 hrs Surf.Area= 0.069 ac Storage= 0.072 af

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	0.118 af	**15.00'W x 150.00'L x 5.00'H Prismatoid Z=1.0** 0.357 af Overall - 0.061 af Embedded = 0.296 af x 40.0% Voids
#2	79.00'	0.061 af	**57.0" D x 150.0'L Pipe Storage** Inside #1
		0.179 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	83.00'	**12.0" Round Culvert** L= 120.0' Ke= 0.500 Inlet / Outlet Invert= 83.00' / 68.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	85.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.00 hrs HW=79.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Time span=3.00-60.00 hrs, dt=0.03 hrs, 1901 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Area 1A Runoff Area=0.620 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=280' Slope=0.1100 '/' Tc=13.4 min CN=30 Runoff=0.01 cfs 0.006 af

Subcatchment 2S: Area 1 Runoff Area=1.420 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=450' Slope=0.0330 '/' Tc=35.9 min CN=30 Runoff=0.02 cfs 0.014 af

Subcatchment 3S: Area 1B Runoff Area=5.230 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=1,050' Slope=0.0380 '/' Tc=65.9 min CN=30 Runoff=0.08 cfs 0.052 af

Subcatchment 7S: Area 4 Runoff Area=7.980 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=800' Slope=0.0250 '/' Tc=65.3 min CN=30 Runoff=0.12 cfs 0.080 af

Subcatchment 8S: Area 4A Runoff Area=2.150 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=600' Slope=0.0250 '/' Tc=51.9 min CN=30 Runoff=0.03 cfs 0.021 af

Subcatchment 17S: Area 2 Runoff Area=6.260 ac 33.39% Impervious Runoff Depth=2.10"
Tc=7.0 min CN=59 Runoff=14.02 cfs 1.095 af

Subcatchment 18S: Area 3 Runoff Area=5.270 ac 44.78% Impervious Runoff Depth=2.65"
Tc=8.8 min CN=65 Runoff=14.54 cfs 1.162 af

Subcatchment 24S: Area 18 Runoff Area=6.040 ac 27.15% Impervious Runoff Depth=1.75"
Tc=5.0 min CN=55 Runoff=11.64 cfs 0.882 af

Subcatchment 25S: Area 9 Runoff Area=5.380 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=850' Slope=0.0600 '/' Tc=44.3 min CN=30 Runoff=0.08 cfs 0.054 af

Subcatchment 26S: Area 5 Runoff Area=19.250 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=1,600' Slope=0.0140 '/' Tc=152.0 min CN=30 Runoff=0.26 cfs 0.192 af

Subcatchment 27S: Area 8 Runoff Area=2.890 ac 0.00% Impervious Runoff Depth=0.24"
Flow Length=550' Slope=0.1750 '/' Tc=16.7 min CN=33 Runoff=0.10 cfs 0.058 af

Subcatchment 28S: Area 6 Runoff Area=1.670 ac 0.00% Impervious Runoff Depth=0.24"
Flow Length=350' Slope=0.0800 '/' Tc=17.2 min CN=33 Runoff=0.06 cfs 0.034 af

Subcatchment 29S: Area 7b Runoff Area=0.300 ac 100.00% Impervious Runoff Depth>6.10"
Tc=5.0 min CN=98 Runoff=1.94 cfs 0.152 af

Subcatchment 33S: Area 7a Runoff Area=0.750 ac 60.00% Impervious Runoff Depth=3.52"
Flow Length=650' Slope=0.0700 '/' Tc=10.2 min CN=74 Runoff=2.68 cfs 0.220 af

Subcatchment 34S: Area 7 Runoff Area=1.250 ac 0.00% Impervious Runoff Depth=1.67"
Tc=5.0 min CN=54 Runoff=2.26 cfs 0.174 af

Reach 4R: 36-inch culvert Avg. Flow Depth=0.03' Max Vel=0.84 fps Inflow=0.01 cfs 0.006 af
36.0" Round Pipe n=0.013 L=60.0' S=0.0100 '/' Capacity=66.70 cfs Outflow=0.01 cfs 0.006 af

Reach 5R: Natural channel Avg. Flow Depth=0.01' Max Vel=0.44 fps Inflow=0.01 cfs 0.006 af
n=0.040 L=350.0' S=0.0269 '/' Capacity=34.73 cfs Outflow=0.01 cfs 0.006 af

Reach 6R: Natural Channel Avg. Flow Depth=0.04' Max Vel=0.64 fps Inflow=0.15 cfs 0.100 af
n=0.040 L=450.0' S=0.0222 '/' Capacity=94.09 cfs Outflow=0.15 cfs 0.100 af

Reach 9R: 24-inch culvert Avg. Flow Depth=0.04' Max Vel=1.37 fps Inflow=0.02 cfs 0.014 af
24.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.02 cfs 0.014 af

Reach 10R: Natural channel Avg. Flow Depth=0.02' Max Vel=0.82 fps Inflow=0.02 cfs 0.014 af
n=0.040 L=400.0' S=0.0975 '/' Capacity=30.73 cfs Outflow=0.02 cfs 0.014 af

Reach 11R: Box Culvert Avg. Flow Depth=0.01' Max Vel=2.25 fps Inflow=0.15 cfs 0.100 af
144.0" x 72.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=1,686.63 cfs Outflow=0.15 cfs 0.100 af

Reach 12R: Natural Channel Avg. Flow Depth=0.09' Max Vel=1.67 fps Inflow=1.15 cfs 1.101 af
n=0.040 L=1,100.0' S=0.0536 '/' Capacity=197.78 cfs Outflow=1.15 cfs 1.101 af

Reach 13R: 24-inch Culvert Avg. Flow Depth=0.08' Max Vel=2.02 fps Inflow=0.08 cfs 0.052 af
24.0" Round Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=29.21 cfs Outflow=0.08 cfs 0.052 af

Reach 14R: Natural Channel Avg. Flow Depth=0.03' Max Vel=0.60 fps Inflow=0.08 cfs 0.052 af
n=0.040 L=600.0' S=0.0233 '/' Capacity=63.38 cfs Outflow=0.08 cfs 0.052 af

Reach 15R: Box Culvert Avg. Flow Depth=0.01' Max Vel=1.71 fps Inflow=0.11 cfs 0.074 af
96.0" x 48.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=572.06 cfs Outflow=0.11 cfs 0.074 af

Reach 16R: Natural Channel Avg. Flow Depth=0.02' Max Vel=0.94 fps Inflow=0.11 cfs 0.074 af
n=0.040 L=750.0' S=0.1187 '/' Capacity=217.43 cfs Outflow=0.11 cfs 0.074 af

Reach 19R: Box Culvert Avg. Flow Depth=0.03' Max Vel=3.15 fps Inflow=1.15 cfs 1.101 af
168.0" x 120.0" Box Pipe n=0.013 L=60.0' S=0.0167 '/' Capacity=4,217.47 cfs Outflow=1.15 cfs 1.101 af

Reach 21R: Natural Channel Avg. Flow Depth=0.07' Max Vel=1.62 fps Inflow=1.22 cfs 1.178 af
n=0.040 L=850.0' S=0.0600 '/' Capacity=264.68 cfs Outflow=1.22 cfs 1.178 af

Reach 22R: 24-inch Culvert at Henry Avg. Flow Depth=0.23' Max Vel=6.10 fps Inflow=1.22 cfs 1.178 af
24.0" Round Pipe n=0.013 L=46.0' S=0.0376 '/' Capacity=43.87 cfs Outflow=1.22 cfs 1.178 af

Reach 31R: Municipal Drain Avg. Flow Depth=0.55' Max Vel=5.20 fps Inflow=2.68 cfs 0.296 af
15.0" Round Pipe n=0.024 L=200.0' S=0.0375 '/' Capacity=6.78 cfs Outflow=2.65 cfs 0.296 af

Pond 20P: Basin 1 Peak Elev=446.77' Storage=79,073 cf Inflow=28.41 cfs 2.257 af
Outflow=0.68 cfs 0.735 af

Pond 23P: Basin 3 Peak Elev=383.03' Storage=37,789 cf Inflow=11.64 cfs 0.882 af
Outflow=0.19 cfs 0.024 af

Pond 30P: Amenity Area Parking Lot Basin Peak Elev=83.03' Storage=0.144 af Inflow=1.94 cfs 0.152 af
Outflow=0.02 cfs 0.009 af

Pond 36P: Amenity Area Peak Elev=83.12' Storage=0.145 af Inflow=2.26 cfs 0.174 af
Outflow=0.07 cfs 0.033 af

Total Runoff Area = 66.460 ac Runoff Volume = 4.198 af Average Runoff Depth = 0.76"
89.71% Pervious = 59.620 ac 10.29% Impervious = 6.840 ac

Summary for Subcatchment 1S: Area 1A

Runoff = 0.01 cfs @ 15.13 hrs, Volume= 0.006 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
0.050	30	Brush, Good, HSG A
0.570	30	Woods, Good, HSG A
0.620	30	Weighted Average
0.620		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	280	0.1100	0.35		**Lag/CN Method,**

Summary for Subcatchment 2S: Area 1

Runoff = 0.02 cfs @ 15.51 hrs, Volume= 0.014 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
1.420	30	Woods, Good, HSG A
1.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.9	450	0.0330	0.21		**Lag/CN Method,**

Summary for Subcatchment 3S: Area 1B

Runoff = 0.08 cfs @ 16.02 hrs, Volume= 0.052 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
0.220	30	Brush, Good, HSG A
5.010	30	Woods, Good, HSG A
5.230	30	Weighted Average
5.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.9	1,050	0.0380	0.27		**Lag/CN Method,**

Summary for Subcatchment 7S: Area 4

Runoff = 0.12 cfs @ 15.91 hrs, Volume= 0.080 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
0.420	30	Brush, Good, HSG A
7.560	30	Woods, Good, HSG A
7.980	30	Weighted Average
7.980		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
65.3	800	0.0250	0.20		**Lag/CN Method,**

Summary for Subcatchment 8S: Area 4A

Runoff = 0.03 cfs @ 15.74 hrs, Volume= 0.021 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
0.060	30	Brush, Good, HSG A
2.090	30	Woods, Good, HSG A
2.150	30	Weighted Average
2.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
51.9	600	0.0250	0.19		**Lag/CN Method,**

Summary for Subcatchment 17S: Area 2

Runoff = 14.02 cfs @ 12.11 hrs, Volume= 1.095 af, Depth= 2.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
4.170	39	>75% Grass cover, Good, HSG A
0.810	98	Paved roads w/curbs & sewers, HSG A
0.660	98	Paved parking, HSG A
0.620	98	Roofs, HSG A
6.260	59	Weighted Average
4.170		66.61% Pervious Area
2.090		33.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry,**

Summary for Subcatchment 18S: Area 3

Runoff = 14.54 cfs @ 12.13 hrs, Volume= 1.162 af, Depth= 2.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
2.910	39	>75% Grass cover, Good, HSG A
1.020	98	Paved roads w/curbs & sewers, HSG A
0.790	98	Paved parking, HSG A
0.550	98	Roofs, HSG A
5.270	65	Weighted Average
2.910		55.22% Pervious Area
2.360		44.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8					**Direct Entry,**

Summary for Subcatchment 24S: Area 18

Runoff = 11.64 cfs @ 12.09 hrs, Volume= 0.882 af, Depth= 1.75"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
4.310	39	>75% Grass cover, Good, HSG A
0.760	98	Paved roads w/curbs & sewers, HSG A
0.490	98	Paved parking, HSG A
0.390	98	Roofs, HSG A
0.090	30	Woods, Good, HSG A
6.040	55	Weighted Average
4.400		72.85% Pervious Area
1.640		27.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 25S: Area 9

Runoff = 0.08 cfs @ 15.60 hrs, Volume= 0.054 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
0.030	30	Brush, Good, HSG A
5.350	30	Woods, Good, HSG A
5.380	30	Weighted Average
5.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
44.3	850	0.0600	0.32		**Lag/CN Method,**

Summary for Subcatchment 26S: Area 5

Runoff = 0.26 cfs @ 17.42 hrs, Volume= 0.192 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
1.890	30	Brush, Good, HSG A
17.360	30	Woods, Good, HSG A
19.250	30	Weighted Average
19.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
152.0	1,600	0.0140	0.18		**Lag/CN Method,**

Summary for Subcatchment 27S: Area 8

Runoff = 0.10 cfs @ 12.99 hrs, Volume= 0.058 af, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

	Area (ac)	CN	Description
	1.350	30	Woods, Good, HSG A
*	1.540	35	easement
	2.890	33	Weighted Average
	2.890		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	550	0.1750	0.55		**Lag/CN Method,**

Summary for Subcatchment 28S: Area 6

Runoff = 0.06 cfs @ 13.00 hrs, Volume= 0.034 af, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

	Area (ac)	CN	Description
	0.490	30	Brush, Good, HSG A
	0.320	30	Woods, Good, HSG A
*	0.860	35	easement
	1.670	33	Weighted Average
	1.670		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	350	0.0800	0.34		**Lag/CN Method,**

Summary for Subcatchment 29S: Area 7b

Runoff = 1.94 cfs @ 12.07 hrs, Volume= 0.152 af, Depth> 6.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

Area (ac)	CN	Description
0.300	98	Paved parking, HSG A
0.300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 33S: Area 7a

Runoff = 2.68 cfs @ 12.14 hrs, Volume= 0.220 af, Depth= 3.52"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

	Area (ac)	CN	Description
	0.330	98	Paved roads w/curbs & sewers, HSG A
*	0.120	98	walk
	0.300	39	>75% Grass cover, Good, HSG A
	0.750	74	Weighted Average
	0.300		40.00% Pervious Area
	0.450		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	650	0.0700	1.07		**Lag/CN Method,**

Summary for Subcatchment 34S: Area 7

Runoff = 2.26 cfs @ 12.09 hrs, Volume= 0.174 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=6.40"

	Area (ac)	CN	Description
*	1.250	54	Amenity area
	1.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach 4R: 36-inch culvert

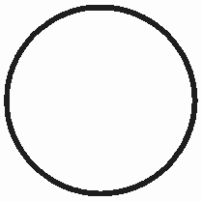
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.620 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event
Inflow = 0.01 cfs @ 15.13 hrs, Volume= 0.006 af
Outflow = 0.01 cfs @ 15.17 hrs, Volume= 0.006 af, Atten= 0%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.84 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.84 fps, Avg. Travel Time= 1.2 min

Peak Storage= 1 cf @ 15.15 hrs
Average Depth at Peak Storage= 0.03'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 66.70 cfs

36.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0100 '/'
Inlet Invert= 450.00', Outlet Invert= 449.40'



Summary for Reach 5R: Natural channel

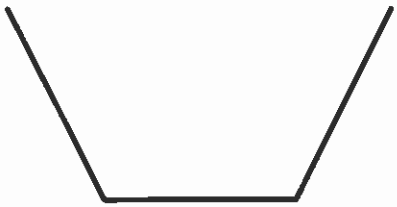
[61] Hint: Exceeded Reach 4R outlet invert by 0.01' @ 15.39 hrs

Inflow Area = 0.620 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event
Inflow = 0.01 cfs @ 15.17 hrs, Volume= 0.006 af
Outflow = 0.01 cfs @ 15.61 hrs, Volume= 0.006 af, Atten= 1%, Lag= 26.7 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.44 fps, Min. Travel Time= 13.2 min
Avg. Velocity = 0.44 fps, Avg. Travel Time= 13.2 min

Peak Storage= 8 cf @ 15.39 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 2.00' Flow Area= 6.0 sf, Capacity= 34.73 cfs

2.00' x 2.00' deep channel, n= 0.040 Earth, cobble bottom, clean sides
Side Slope Z-value= 0.5 '/' Top Width= 4.00'
Length= 350.0' Slope= 0.0269 '/'
Inlet Invert= 449.40', Outlet Invert= 440.00'



Summary for Reach 6R: Natural Channel

[62] Hint: Exceeded Reach 5R OUTLET depth by 0.03' @ 16.29 hrs
[62] Hint: Exceeded Reach 10R OUTLET depth by 0.02' @ 16.23 hrs

Inflow Area = 10.020 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event
Inflow = 0.15 cfs @ 15.90 hrs, Volume= 0.100 af
Outflow = 0.15 cfs @ 16.25 hrs, Volume= 0.100 af, Atten= 0%, Lag= 21.2 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.64 fps, Min. Travel Time= 11.7 min
Avg. Velocity = 0.52 fps, Avg. Travel Time= 14.3 min

Peak Storage= 107 cf @ 16.05 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 94.09 cfs

6.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 8.00'
Length= 450.0' Slope= 0.0222 '/'
Inlet Invert= 440.00', Outlet Invert= 430.00'

Summary for Reach 9R: 24-inch culvert

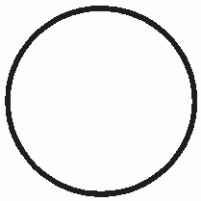
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 1.420 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event
Inflow = 0.02 cfs @ 15.51 hrs, Volume= 0.014 af
Outflow = 0.02 cfs @ 15.54 hrs, Volume= 0.014 af, Atten= 0%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 1.37 fps, Min. Travel Time= 0.7 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 0.8 min

Peak Storage= 1 cf @ 15.45 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 480.00', Outlet Invert= 479.00'



Summary for Reach 10R: Natural channel

[61] Hint: Exceeded Reach 9R outlet invert by 0.02' @ 15.57 hrs

Inflow Area = 1.420 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event
Inflow = 0.02 cfs @ 15.54 hrs, Volume= 0.014 af
Outflow = 0.02 cfs @ 15.71 hrs, Volume= 0.014 af, Atten= 0%, Lag= 10.4 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.82 fps, Min. Travel Time= 8.1 min
Avg. Velocity = 0.72 fps, Avg. Travel Time= 9.2 min

Peak Storage= 11 cf @ 15.58 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 1.50' Flow Area= 3.4 sf, Capacity= 30.73 cfs

1.50' x 1.50' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 3.00'
Length= 400.0' Slope= 0.0975 '/'
Inlet Invert= 479.00', Outlet Invert= 440.00'

Summary for Reach 11R: Box Culvert

[52] Hint: Inlet/Outlet conditions not evaluated
[61] Hint: Exceeded Reach 6R outlet invert by 0.01' @ 16.26 hrs

Inflow Area =	10.020 ac,	0.00% Impervious,	Inflow Depth =	0.12"	for 100-Year event
Inflow =	0.15 cfs @	16.25 hrs, Volume=	0.100 af		
Outflow =	0.15 cfs @	16.26 hrs, Volume=	0.100 af,	Atten= 0%,	Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 2.25 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.25 fps, Avg. Travel Time= 0.4 min

Peak Storage= 4 cf @ 16.26 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 6.00' Flow Area= 72.0 sf, Capacity= 1,686.63 cfs

144.0" W x 72.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 430.00', Outlet Invert= 429.00'

Summary for Reach 12R: Natural Channel

[62] Hint: Exceeded Reach 11R OUTLET depth by 0.08' @ 18.09 hrs
[62] Hint: Exceeded Reach 16R OUTLET depth by 54.07' @ 19.20 hrs

Inflow Area = 48.180 ac, 9.24% Impervious, Inflow Depth > 0.27" for 100-Year event
Inflow = 1.15 cfs @ 17.74 hrs, Volume= 1.101 af
Outflow = 1.15 cfs @ 18.05 hrs, Volume= 1.101 af, Atten= 0%, Lag= 18.5 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 1.67 fps, Min. Travel Time= 11.0 min
Avg. Velocity = 0.89 fps, Avg. Travel Time= 20.6 min

Peak Storage= 761 cf @ 17.86 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 2.00' Flow Area= 18.0 sf, Capacity= 197.78 cfs

8.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 10.00'
Length= 1,100.0' Slope= 0.0536 '/'
Inlet Invert= 429.00', Outlet Invert= 370.00'

Summary for Reach 13R: 24-inch Culvert

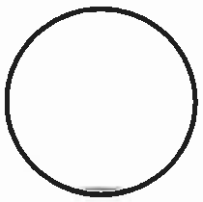
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 5.230 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event
Inflow = 0.08 cfs @ 16.02 hrs, Volume= 0.052 af
Outflow = 0.08 cfs @ 16.03 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 2.02 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 1.61 fps, Avg. Travel Time= 0.6 min

Peak Storage= 2 cf @ 16.02 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 29.21 cfs

24.0" Round Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 481.00', Outlet Invert= 480.00'



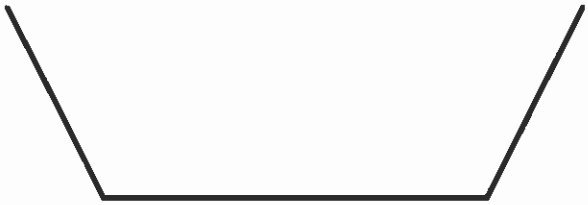
Summary for Reach 14R: Natural Channel

Inflow Area = 5.230 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event
Inflow = 0.08 cfs @ 16.03 hrs, Volume= 0.052 af
Outflow = 0.08 cfs @ 16.46 hrs, Volume= 0.052 af, Atten= 0%, Lag= 25.5 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.60 fps, Min. Travel Time= 16.6 min
Avg. Velocity = 0.49 fps, Avg. Travel Time= 20.3 min

Peak Storage= 79 cf @ 16.18 hrs
Average Depth at Peak Storage= 0.03'
Bank-Full Depth= 2.00' Flow Area= 10.0 sf, Capacity= 63.38 cfs

4.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 6.00'
Length= 600.0' Slope= 0.0233 '/'
Inlet Invert= 479.00', Outlet Invert= 465.00'



Summary for Reach 15R: Box Culvert

[52] Hint: Inlet/Outlet conditions not evaluated
[61] Hint: Exceeded Reach 14R outlet invert by 0.01' @ 16.23 hrs

Inflow Area =	7.380 ac,	0.00% Impervious,	Inflow Depth =	0.12"	for 100-Year event
Inflow =	0.11 cfs @	16.23 hrs,	Volume=	0.074 af	
Outflow =	0.11 cfs @	16.27 hrs,	Volume=	0.074 af,	Atten= 0%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 1.71 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.71 fps, Avg. Travel Time= 0.6 min

Peak Storage= 4 cf @ 16.23 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 4.00' Flow Area= 32.0 sf, Capacity= 572.06 cfs

96.0" W x 48.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 465.00', Outlet Invert= 464.00'

Summary for Reach 16R: Natural Channel

[62] Hint: Exceeded Reach 15R OUTLET depth by 0.01' @ 16.65 hrs

Inflow Area = 7.380 ac, 0.00% Impervious, Inflow Depth = 0.12" for 100-Year event
Inflow = 0.11 cfs @ 16.27 hrs, Volume= 0.074 af
Outflow = 0.11 cfs @ 16.75 hrs, Volume= 0.074 af, Atten= 1%, Lag= 28.6 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 0.94 fps, Min. Travel Time= 13.3 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 13.3 min

Peak Storage= 88 cf @ 16.53 hrs
Average Depth at Peak Storage= 0.02'
Bank-Full Depth= 2.00' Flow Area= 14.0 sf, Capacity= 217.43 cfs

6.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 8.00'
Length= 750.0' Slope= 0.1187 '/'
Inlet Invert= 464.00', Outlet Invert= 375.00'

Summary for Reach 19R: Box Culvert

[52] Hint: Inlet/Outlet conditions not evaluated
[61] Hint: Exceeded Reach 12R outlet invert by 0.03' @ 18.06 hrs

Inflow Area = 48.180 ac, 9.24% Impervious, Inflow Depth > 0.27" for 100-Year event
Inflow = 1.15 cfs @ 18.05 hrs, Volume= 1.101 af
Outflow = 1.15 cfs @ 18.06 hrs, Volume= 1.101 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 3.15 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.15 fps, Avg. Travel Time= 0.3 min

Peak Storage= 22 cf @ 18.05 hrs
Average Depth at Peak Storage= 0.03'
Bank-Full Depth= 10.00' Flow Area= 140.0 sf, Capacity= 4,217.47 cfs

168.0" W x 120.0" H Box Pipe
n= 0.013
Length= 60.0' Slope= 0.0167 '/'
Inlet Invert= 370.00', Outlet Invert= 369.00'

Summary for Reach 21R: Natural Channel

[62] Hint: Exceeded Reach 19R OUTLET depth by 0.05' @ 24.03 hrs

Inflow Area = 59.600 ac, 10.22% Impervious, Inflow Depth > 0.24" for 100-Year event
Inflow = 1.22 cfs @ 17.96 hrs, Volume= 1.178 af
Outflow = 1.22 cfs @ 18.17 hrs, Volume= 1.178 af, Atten= 0%, Lag= 13.1 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 1.62 fps, Min. Travel Time= 8.8 min
Avg. Velocity = 0.90 fps, Avg. Travel Time= 15.8 min

Peak Storage= 639 cf @ 18.03 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 2.00' Flow Area= 22.0 sf, Capacity= 264.68 cfs

10.00' x 2.00' deep channel, n= 0.040
Side Slope Z-value= 0.5 '/' Top Width= 12.00'
Length= 850.0' Slope= 0.0600 '/'
Inlet Invert= 369.00', Outlet Invert= 318.00'

Summary for Reach 22R: 24-inch Culvert at Henry Street

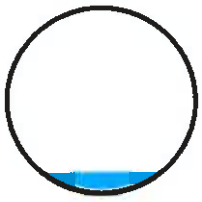
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 59.600 ac, 10.22% Impervious, Inflow Depth > 0.24" for 100-Year event
Inflow = 1.22 cfs @ 18.17 hrs, Volume= 1.178 af
Outflow = 1.22 cfs @ 18.18 hrs, Volume= 1.178 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 6.10 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.08 fps, Avg. Travel Time= 0.2 min

Peak Storage= 9 cf @ 18.17 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 43.87 cfs

24.0" Round Pipe
n= 0.013
Length= 46.0' Slope= 0.0376 '/'
Inlet Invert= 315.63', Outlet Invert= 313.90'



Summary for Reach 31R: Municipal Drain

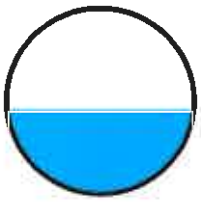
[52] Hint: Inlet/Outlet conditions not evaluated
[81] Warning: Exceeded Pond 30P by 269.00' @ 3.00 hrs
[81] Warning: Exceeded Pond 36P by 269.14' @ 11.46 hrs

Inflow Area = 3.970 ac, 18.89% Impervious, Inflow Depth = 0.90" for 100-Year event
Inflow = 2.68 cfs @ 12.14 hrs, Volume= 0.296 af
Outflow = 2.65 cfs @ 12.16 hrs, Volume= 0.296 af, Atten= 1%, Lag= 1.1 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Max. Velocity= 5.20 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 1.27 fps, Avg. Travel Time= 2.6 min

Peak Storage= 103 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.55'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 6.78 cfs

15.0" Round Pipe
n= 0.024
Length= 200.0' Slope= 0.0375 '/'
Inlet Invert= 348.00', Outlet Invert= 340.50'



Summary for Pond 20P: Basin 1

Inflow Area = 11.530 ac, 38.59% Impervious, Inflow Depth = 2.35" for 100-Year event
Inflow = 28.41 cfs @ 12.12 hrs, Volume= 2.257 af
Outflow = 0.68 cfs @ 19.89 hrs, Volume= 0.735 af, Atten= 98%, Lag= 466.3 min
Primary = 0.68 cfs @ 19.89 hrs, Volume= 0.735 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 446.77' @ 19.89 hrs Surf.Area= 18,030 sf Storage= 79,073 cf

Plug-Flow detention time= 680.4 min calculated for 0.735 af (33% of inflow)
Center-of-Mass det. time= 544.7 min (1,400.2 - 855.6)

Volume	Invert	Avail.Storage	Storage Description
#1	440.00'	102,700 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
440.00	5,335	0	0
448.00	20,340	102,700	102,700

Device	Routing	Invert	Outlet Devices
#1	Primary	447.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#2	Primary	440.00'	**12.0" Round Culvert** L= 75.0' Ke= 0.500 Inlet / Outlet Invert= 440.00' / 435.00' S= 0.0667 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#3	Device 2	446.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 2	447.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 19.89 hrs HW=446.77' (Free Discharge)
- **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- 2=Culvert (Passes 0.68 cfs of 9.47 cfs potential flow)
  - **3=Orifice/Grate** (Orifice Controls 0.68 cfs @ 3.47 fps)
  - **4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 23P: Basin 3

Inflow Area = 6.040 ac, 27.15% Impervious, Inflow Depth = 1.75" for 100-Year event
Inflow = 11.64 cfs @ 12.09 hrs, Volume= 0.882 af
Outflow = 0.19 cfs @ 24.02 hrs, Volume= 0.024 af, Atten= 98%, Lag= 716.1 min
Primary = 0.19 cfs @ 24.02 hrs, Volume= 0.024 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 383.03' @ 24.02 hrs Surf.Area= 13,755 sf Storage= 37,789 cf

Plug-Flow detention time= 737.3 min calculated for 0.024 af (3% of inflow)
Center-of-Mass det. time= 567.1 min (1,438.5 - 871.4)

Volume	Invert	Avail.Storage	Storage Description
#1	380.00'	51,550 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
380.00	11,200	0	0
384.00	14,575	51,550	51,550

Device	Routing	Invert	Outlet Devices
#1	Primary	383.00'	**10.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height

Primary OutFlow Max=0.16 cfs @ 24.02 hrs HW=383.03' (Free Discharge)
↑—**1=Sharp-Crested Rectangular Weir** (Weir Controls 0.16 cfs @ 0.55 fps)

Summary for Pond 30P: Amenity Area Parking Lot Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.300 ac,100.00% Impervious, Inflow Depth > 6.10" for 100-Year event
Inflow = 1.94 cfs @ 12.07 hrs, Volume= 0.152 af
Outflow = 0.02 cfs @ 20.76 hrs, Volume= 0.009 af, Atten= 99%, Lag= 521.6 min
Primary = 0.02 cfs @ 20.76 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 83.03' @ 20.76 hrs Surf.Area= 0.066 ac Storage= 0.144 af

Plug-Flow detention time= 984.7 min calculated for 0.009 af (6% of inflow)
Center-of-Mass det. time= 564.5 min (1,314.1 - 749.6)

Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	6.777 af	**38.00'W x 54.00'L x 60.00'H Prismatoid Z=1.0** 17.041 af Overall - 0.100 af Embedded = 16.942 af x 40.0% Voids
#2	79.00'	0.100 af	**57.0" D x 245.0'L Pipe Storage** Inside #1
		6.876 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	83.00'	**12.0" Round Culvert** L= 40.0' Ke= 0.500 Inlet / Outlet Invert= 83.00' / 68.00' S= 0.3750 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	85.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary **OutFlow** Max=0.00 cfs @ 20.76 hrs HW=83.03' (Free Discharge)
└─**1=Culvert** (Inlet Controls 0.00 cfs @ 0.57 fps)
└─2=Orifice/Grate (Controls 0.00 cfs)

Summary for Pond 36P: Amenity Area

Inflow Area = 1.250 ac, 0.00% Impervious, Inflow Depth = 1.67" for 100-Year event
Inflow = 2.26 cfs @ 12.09 hrs, Volume= 0.174 af
Outflow = 0.07 cfs @ 19.14 hrs, Volume= 0.033 af, Atten= 97%, Lag= 422.9 min
Primary = 0.07 cfs @ 19.14 hrs, Volume= 0.033 af

Routing by Stor-Ind method, Time Span= 3.00-60.00 hrs, dt= 0.03 hrs
Peak Elev= 83.12' @ 19.14 hrs Surf.Area= 0.084 ac Storage= 0.145 af

Plug-Flow detention time= 562.6 min calculated for 0.033 af (19% of inflow)
Center-of-Mass det. time= 408.8 min (1,283.2 - 874.3)

Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	0.118 af	**15.00'W x 150.00'L x 5.00'H Prismatoid Z=1.0** 0.357 af Overall - 0.061 af Embedded = 0.296 af x 40.0% Voids
#2	79.00'	0.061 af	**57.0" D x 150.0'L Pipe Storage** Inside #1
		0.179 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	83.00'	**12.0" Round Culvert** L= 120.0' Ke= 0.500 Inlet / Outlet Invert= 83.00' / 68.00' S= 0.1250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	85.00'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.06 cfs @ 19.14 hrs HW=83.12' (Free Discharge)
└─**1=Culvert** (Inlet Controls 0.06 cfs @ 1.17 fps)
└─**2=Orifice/Grate** (Controls 0.00 cfs)